

CLAIMS

What is claimed is:

1. A caption overlaying method used on an interactive video equipment, in which information of a caption to be generated set by a user is received by a control layer, comprising:

A. providing a caption generating module, receiving the information of the caption from the control layer, and generating a caption image with a transparent background according to the said received information;

B. providing a caption overlaying module, overlaying the said caption image on a digital service image, and obtaining an image with the caption to display at a local side and/or transmit to a remote side.

2. The caption overlaying method according to Claim 1, wherein the information of the caption to be generated comprises: internal codes of all characters of the said caption, a position information of the said caption, a size information of the said caption and a color information of the said caption.

3. The caption overlaying method according to Claim 1, wherein the information of the caption to be generated comprises internal codes of all characters of the said caption to be generated, and the internal code is generated with the steps of:

using a software for generating a character database; selecting a vector font; according to a required character size, displaying a character one by one on a PC

screen with a software, and then recording the display result as a dot-matrix image, and storing the dot-matrix image in a specific format as a character database file.

4. The caption overlaying method according to Claim 1, wherein the information of the caption to be generated comprises color information of the said caption;

the caption generating module performs setting or changing the color of the characters according to the color information of the said caption and keeping the background of the caption image transparent.

5. The caption overlaying method according to Claim 1, in Step A comprising, after the caption generating module has received the said caption information from the control layer, reading dot-matrix images of all the characters, and combining the dot-matrix images with the transparent background according to a display position and content of the caption selected at the control layer.

6. The caption overlaying method according to Claim 1, further comprising, selecting to overlay the caption image at the local side or at the remote side by the control layer, and

for overlaying the caption image at the local side by the control layer, overlaying the said caption image on the decoded image of locally received service and then outputting to the local side for display;

for overlaying the caption image at the remote side by the control layer, overlaying the said caption image on the pre-encoded image of locally sent service and then transmitting to the remote side after encoding.

7. An interactive video equipment that has a control layer to receive information of a caption to be generated set by a user, includes a caption generating module and a caption overlaying module;

wherein the caption generating module receives the information of the caption from the control layer, and generates a caption image with a transparent background according to the said received information;

the caption overlaying module overlays the said caption image on a digital service image, and obtains an image with the caption to display at a local side and/or transmit to a remote side.

8. The interactive video equipment according to Claim 7, the caption generating module reads dot-matrix images of all the characters, and combines the dot-matrix images with the transparent background according to a display position and content of the caption selected at the control layer after having received the said caption information from the control layer.

9. The interactive video equipment according to Claim 7, the caption overlaying module is in a CODEC (coder-decoder) unit and in front of an image CODEC module; the caption generating module is in the CODEC unit and connects with the caption overlaying module.

10. The interactive video equipment according to Claim 7, the caption overlaying module comprises a first caption overlaying module and a second caption overlaying module, and the caption generating module comprises a first caption generating module and a second caption generating module; wherein

the said first caption overlaying module is in an encoder, and locates along a service channel which is in front of an image-encoding module;

the said first caption generating module is in the encoder and connects with the said first caption overlaying module;

the said second caption overlaying module is in a decoder, and locates along a service channel which is behind an image-decoding module;

the said second caption generating module is in the decoder and connects with the said second caption overlaying module.